Claims

1. A method of producing a I-III-VI_y compound in thin film form, in which y is close to 2, by electrochemistry, comprising the following steps:

- an electrolysis bath comprising at least one element III dissolved in the bath and at least two electrodes immersed in the bath is provided;
- a potential difference is applied between the two electrodes in order to initiate the formation of a thin film of I-III-VI_y on the surface of one of the electrodes,

characterized in that the electrolysis bath furthermore includes at least one surfactant compound in order to promote the incorporation of the element III into said film.

2. The method as claimed in claim 1, characterized in that the element III comprises gallium and/or aluminum.

3. The method as claimed in either of claims 1 and 2, characterized in that the surfactant compound has a chemical formula $CH_3(CH_2)_nO\text{-}SO_3\text{-}X$, where n is greater than or equal to 5 and X is an atomic species such as H, Na, Li or K.

4. The method as claimed in claim 3, characterized in that the surfactant compound comprises sodium dodecylsulfate.

5. The method as claimed in either of claims 1 and 2, characterized in that the surfactant compound comprises 2-butyne-1,4-diol.

6. The method as claimed in either of claims 1 and 2, characterized in that the surfactant compound comprises maleic acid.

7. The method as claimed in either of claims 1 and 2, characterized in that the surfactant compound comprises succinic acid.

8. The method as claimed in either of claims 1 and 2, characterized in that the surfactant compound comprises fumaric acid.

9. The method as claimed in either of claims 1 and 2, characterized in that the surfactant compound comprises crotonic acid.

10. The method as claimed in one of claims 2 to 9, characterized in that the concentration of the surfactant in the electrolysis bath is substantially of the same order of magnitude as the concentration of gallium and/or aluminum in the bath.